

REMARKS

Claims 1-9 are the claims that have been examined in the pending application.

Status of the Application

Claims 1-3 and 9 stand rejected under 35 U.S.C. § 103(a) as being obvious over Chang (U.S. Patent No. 6,619,777) in view of Kusunoki (U.S. Publication No. 2004/0017413). Claim 4 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Chang (U.S. Patent No. 6,619,777) as modified by Kusunoki (U.S. Publication No. 2004/0017413) as applied to claim 1 above, and further in view of Takahashi et al. (U.S. Publication No. 2004/0056909) and Sekiguchi (U.S. Publication No. 2004/0090476). Claims 5 and 6 stand rejected under Chang (U.S. Patent No. 6,619,777) as modified by Kusunoki (U.S. Publication No. 2004/0017413) as applied to claim 1 and further in view of Kobayashi (U.S. Patent No. 6,679,586). Claim 7 and 8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Chang (U.S. Patent No. 6,619,777) as modified by Kusunoki (U.S. Publication No. 2004/0017413) as applied to claim 1 and further in view of Hosono (U.S. Patent No. 6,984,010).

Preliminary Matters

Applicant thanks the Examiner for considering and initialing the references filed with the Information Disclosure Statement filed on August 17, 2004.

Applicant respectfully requests that the Examiner acknowledge Applicant's claim to foreign priority, as well as receipt of the certified copy of the priority document, filed August 17, 2004.

Applicant also respectfully requests that the Examiner acknowledge acceptance of the drawings filed August 17, 2004.

Claim Rejections under 35 U.S.C. § 103(a)

A. *Claims 1-3 and 9 are rejected under 35 U.S.C. § 103(a) as being obvious over Chang (U.S. Patent No. 6,619,777) in view of Kusunoki (U.S. Publication No. 2004/0017413).*

The Examiner argues that Chang teaches all of the elements of claim 1, but concedes that Chang fails to show the claimed recitation that each of the first drive subsignal and the second drive subsignal is associated with a minimum area subjected to the liquid ejection. The Examiner further argues, however, that Kusunoki cures the deficiency in Chang, and a proper motivation to combine the references exists.

Applicant respectfully disagrees with the Examiner's argument that Kusunoki cures Chang's deficiency with respect to claim 1. The Examiner alleges that the recitation in Claims 4 and 6 of Kusunoki compensate for the above deficiency of Chang. These claims disclose that the first to fourth pulses are sequentially generated to eject a plurality of ink droplets, thereby adhering them at *one* point (i.e., a dot corresponding to *one* pixel is formed) on a recording medium.

Applicant submits that Kusunoki, as well as Chang, discloses generating a common drive signal, containing a plurality of drive pulses within a period, corresponding to *one*-pixel recording, and at least one of the drive pulses is selectively applied to drive a pressure generating element to vary a size of a dot formed on a recording medium.

Claim 1 recites that i) a drive signal containing, within one cycle thereof: a first drive subsignal containing the second drive pulse (vibrating pulse VP) and the second drive subsignal not containing the second drive pulse; and ii) each of the first and second drive subsignals is associated with a minimum area subjected to the liquid ejection (i.e., one-pixel recording period).

In view of the above, it is apparent that the second drive signal appears at least every *two-pixel* recording period.

Because neither Chang nor Kusunoki disclose a second drive signal appearing at least every two-pixel recording period, the references cannot render claim 1 unpatentable. Claim 1 is patentable over the applied references.

Claim 9 recites similar elements to claim 1. Therefore, for reasons analogous to those presented with regard to claim 1, claim 9 is patentable over the applied art.

B. Claim 4 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Chang (U.S. Patent No. 6,619,777) as modified by Kusunoki (U.S. Publication No. 2004/0017413) as applied to claim 1 above, and further in view of Takahashi et al. (U.S. Publication No. 2004/0056909) and Sekiguchi (U.S. Publication No. 2004/0090476).

Claim 4 is dependent from claim 1. Because Chang and Kusunoki fail to teach or suggest all of the elements of claim 1, and because Takahashi and Sekiguchi fail to cure the defects noted with regard to Chang and Kusunoki, claim 4 is patentable over the applied art.

C. Claims 5 and 6 are rejected under Chang (U.S. Patent No. 6,619,777) as modified by Kusunoki (U.S. Publication No. 2004/0017413) as applied to claim 1 and further in view of Kobayashi (U.S. Patent No. 6,679,586).

Claims 5 and 6 are dependent from claim 1. Because Chang and Kusunoki fail to teach or suggest all of the elements of claim 1, and because Kobayashi fails to cure the defects noted with regard to Chang and Kusunoki, claims 5 and 6 are patentable over the applied art.

D. Claim 7 and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Chang (U.S. Patent No. 6,619,777) as modified by Kusunoki (U.S. Publication No. 2004/0017413) as applied to claim 1 and further in view of Hosono (U.S. Patent No. 6,984,010).

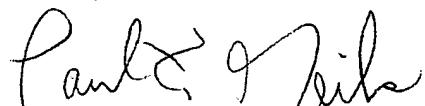
Claims 7 and 8 are dependent from claim 1. Because Chang and Kusunoki fail to teach or suggest all of the elements of claim 1, and because Hosono fails to cure the defects noted with regard to Chang and Kusunoki, claims 7 and 8 is patentable over the applied art.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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